

# **BULLHEAD CITY PM<sub>10</sub> NONATTAINMENT AREA REGIONAL EMISSION ANALYSIS**

**Arizona Department of Transportation**

**May 8, 1996**

# **BULLHEAD CITY PM<sub>10</sub> NONATTAINMENT AREA REGIONAL EMISSION ANALYSIS**

The Bullhead City PM<sub>10</sub> Nonattainment Area State Implementation Plan (SIP) was prepared by the Arizona Department of Environmental Quality (ADEQ). The SIP was submitted to the U.S. Environmental Protection Agency (EPA) on November 22, 1995.

The Air Quality Division of ADEQ developed a Technical Support Document for the Bullhead City PM<sub>10</sub> Nonattainment Area. This technical support document was completed on June 19, 1995, and contains data from all significant sources that contribute to PM<sub>10</sub> levels in the Bullhead City area. This recent study was developed from:

- ◆ The use of aerial photography.
- ◆ Land-use planning map supplied by local agencies.
- ◆ Interviews with Bullhead City staff and other governmental officials to arrive at growth and traffic projections and patterns.
- ◆ Detailed historical monitoring data.
- ◆ Several field trips for soil sampling and testing.
- ◆ Current and future construction activities.
- ◆ Traffic data and projections from ADOT.

ADEQ's methodology in developing PM<sub>10</sub> emission factors included using EPA's PART5 mobile source particulate emissions model. The emissions factors developed in the technical support document for use in determining total vehicular PM<sub>10</sub> contributions (past, current, and future) will be used for the following report for obvious reasons. Some adjustments were made to daily vehicle miles traveled (DMVT) due to more recent traffic data gathered by ADOT and local agencies.

The following report will focus on total vehicular PM<sub>10</sub> contributions for 1989, 2003 build, 2003 no-build. The 2003 no-build will include all of the projects in the State Transportation Improvement Program within the PM<sub>10</sub> nonattainment area. The 2003 build will include all of the no-build projects plus the proposed projects within the PM<sub>10</sub> nonattainment area.

The table below lists vehicular annual PM<sub>10</sub> for the Bullhead City Nonattainment Area as listed in the SIP for 1989 (base year).

**TABLE 1**

**ANNUAL PM<sub>10</sub> EMISSIONS FOR 1989**

<b>Source</b>	<b>Year 1989 (Metric Tons)</b>
Primary Paved Roads	242
Secondary Paved Roads	288
Unpaved Roads	618
<b>Total Vehicular</b>	<b>1,148</b>

Table 2 lists vehicular annual PM<sub>10</sub> for the Bullhead City Nonattainment Area as calculated by ADOT for this report.

**TABLE 2**

**ANNUAL PM<sub>10</sub> EMISSIONS FOR 1989**

<b>Source</b>	<b>Year 1989 (Metric Tons)</b>
Primary Paved Roads	220
Secondary Paved Roads	156
Unpaved Roads	243
<b>Total Vehicular</b>	<b>619</b>

The following average daily traffic (ADT) volumes and daily vehicles miles traveled were computed from ADOT traffic data, local specific data provided by the city of Bullhead City, the public works director, and the Regional Council of Governments. The number of miles of paved highway, paved local streets, unpaved roads, and rate of growth past and future were also provided by the above-mentioned agencies.

Total primary, secondary, and unpaved ADT and DVMT were estimated to be:

**1989**

	<b>PRIMARY</b>	<b>SECONDARY</b>	<b>UNPAVED</b>
Average Daily Traffic	140,896	10,000	1,409
Daily Vehicle Miles Traveled	381,240	270,500	21,134
Metric Tons	219.85	156.0	243.0
<b>TOTAL VEHICULAR = 618.85 METRIC TONS</b>			

**2003 No-Build**

	<b>PRIMARY</b>	<b>SECONDARY</b>	<b>UNPAVED</b>
Average Daily Traffic	203,942	14,386	1,020
Daily Vehicle Miles Traveled	550,790	392,000	4,080
Metric Tons	317.65	226.07	47.05
<b>TOTAL VEHICULAR = 590.77 METRIC TONS</b>			

**2003 Build**

	<b>PRIMARY</b>	<b>SECONDARY</b>	<b>UNPAVED</b>
Average Daily Traffic	203,942	14,386	1,409
Daily Vehicle Miles Traveled	550,790	392,000	4,080
Metric Tons	317.10	225.74	47.05
<b>TOTAL VEHICULAR = 589.89 METRIC TONS</b>			

The 2003-build scenario will reduce the average volume to capability ratio. The average vehicle speed will increase by 15 to 20 mph. The result will be smoother flow and fewer vehicle PM<sub>10</sub> emissions. Average daily traffic and vehicle miles traveled will increase slightly.

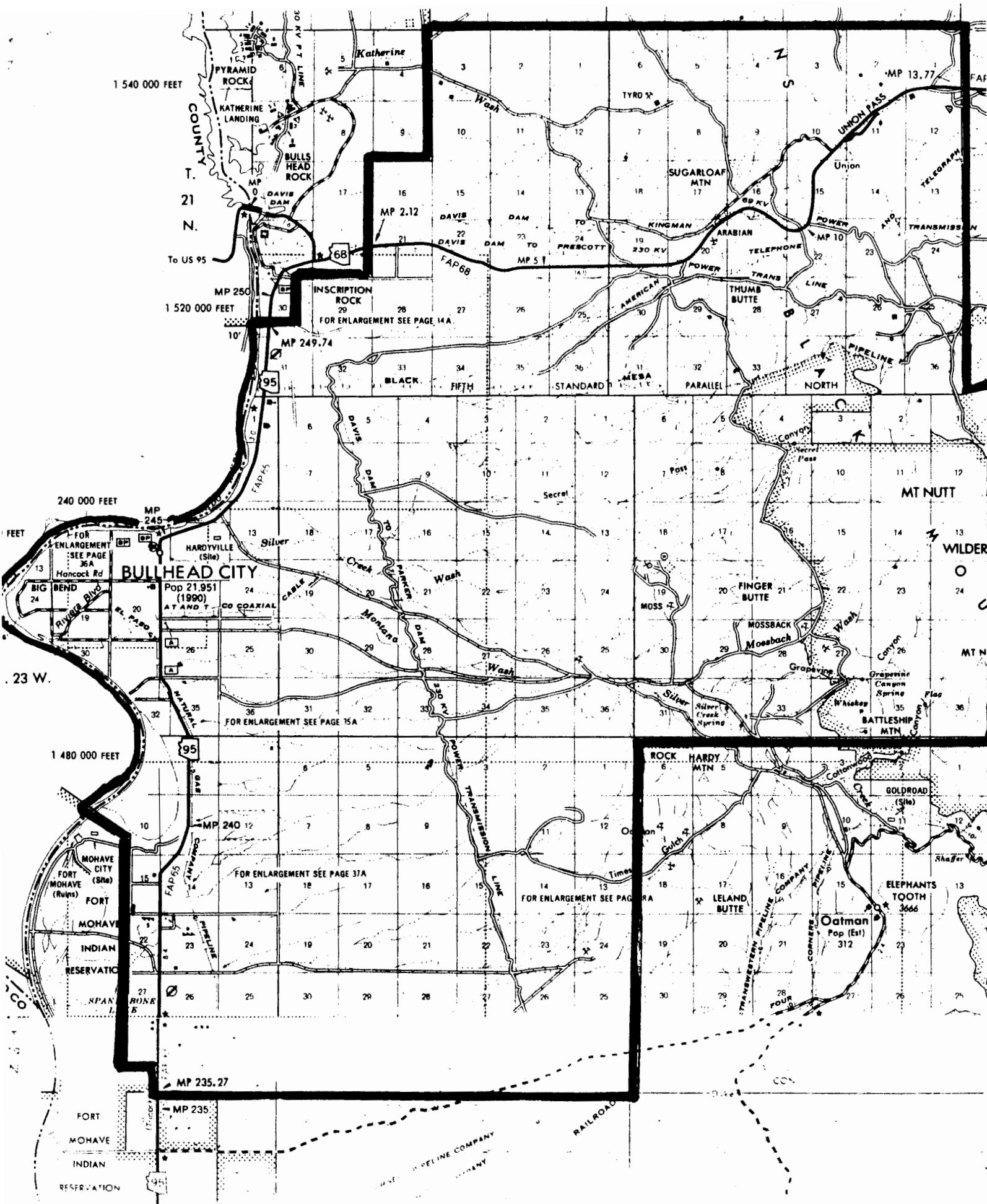
Within the Bullhead City nonattainment area, the STIP contains right-of-way acquisition projects and a utility relocation project. Proposed projects, however (from our Five-Year Highway Construction Program), include improvement projects that focus on reduced congestion, higher travel speeds, and fewer vehicle emissions.

### STATE ROUTE 95 PROJECT DESCRIPTIONS

- **Roadway Widening (1995) Valencia Road to Central Avenue:** This project will provide two additional lanes: one northbound and one southbound, retaining the left- and right-turn lanes where they are today. This project is currently being designed.
- **Passing Lane Widening (1996) Courtwright Road to Pinion Road:** This project will provide two separate passing lanes: one for northbound traffic between MP 227.5 and MP 229.0 and the other for southbound traffic between MP 234.5 and MP 236.0. Left- and right-turn lanes will be retained where they are today. This project is currently being designed.
- **Roadway Reconstruction (1997) Central Avenue to Marina Boulevard:** This project will provide the ultimate improvements: a five-lane section including a continuous two-way center left-turn lane and curb and gutter. This project is currently under final design.
- **Staged Roadway Widening (1998) Courtwright Road to Central Avenue:** This project will provide two additional through lanes (north and south) from Courtwright Road to Valencia Road. A continuous two-way center left-turn lane will be provided from Pinion Road to Central Avenue and all other existing left- and right-turn lanes will be retained between Courtwright Road and Pinion Road. These improvements will take place at the existing grade of the roadway. Design for this project will begin in mid-1996.
- **Future Ultimate Roadway Improvements Courtwright Road to Valencia Road:** A Design Concept Report will be completed by the end of 1995. This report will identify the ultimate improvements between Courtwright Road and Valencia Road. These improvements will include a five-lane roadway for the full length of the project including a continuous two-way center left-turn lane. Other improvements include raising the grade, curb and gutter between Pinion Road and Valencia Road, new drainage facilities, earthwork, and traffic signals as warranted. New right-of-way will be acquired. A portion of the drainage facilities will be the construction of a series of detention basins on or possibly adjacent to the Fort Mohave Indian Tribe lands. Design and construction of this project is not programmed in the current five-year construction program.
- A corridor study is underway for SR 68.

Many mathematical techniques and assumptions were utilized in the preparations of this analysis. The reader is referred to the Technical Support Document For The Bullhead City Nonattainment Area prepared by The Arizona Department of Environmental Quality, dated June 19, 1995.

It is hereby concluded that the Total Vehicular  $PM_{10}$  emissions being generated now and well beyond the build year of 2003 will not exceed the emissions budget as presented in the Bullhead City  $PM_{10}$  Nonattainment Area SIP. The projects listed in the current Transportation Plan and proposed projects within current programs will not interfere with the implementation of any transportation control measures in the SIP and are in conformity.



# MOHAVE COUNTY, ARIZONA

ARIZONA DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PHOTOGRAMMETRY AND MAPPING SERVICES

IN COOPERATION WITH THE

U. S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION NINE  
Arizona Division  
234 N. Central Ave. Suite 330  
Phoenix, AZ 85004  
May 10, 1996

IN REPLY REFER TO  
HPR-AZ  
(727.3)  
Bullhead City Nonattainment Area  
Regionally Significant Projects  
Conformity Finding

Mr. Richard M. Duarte, Manager  
Environmental Planning Section  
Arizona Department of Transportation  
Phoenix, Arizona 85007


Dear Mr. Duarte:

In accordance with the Clean Air Act Amendments of 1990, a conformity finding of the regionally significant transportation projects in a rural nonattainment area is required of the U.S. Department of Transportation. Based on our evaluation of the Arizona Department of Transportation's findings of conformity and related documentation, and in coordination with the Environmental Protection Agency (EPA), we have determined that the Bullhead City, Arizona area has met the requirements of the EPA Transportation Conformity Rule (40 CFR Parts 51 and 93).


A finding of Conformity is hereby made with respect to the Regionally Significant Transportation Projects listed in the May 8, 1996 Nonattainment Area Regional Emission Analysis.

This conformity determination is in effect until such time as a new determination is required either by new regulatory requirements, major revision of transportation plans, or a State Implementation Plan (SIP) revision.

Sincerely yours,

  
for Robert E. Hollis

FHWA Division Administrator



Louis F. Mraz, Jr.  
FTA Regional Administrator